

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BOARD OF PATENT APPEALS AND INTERFERENCES**

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In re Application of: Pawel DRABAREK :  
Serial No.: 10/591,502 :  
Filed: August 20, 2007 :  
For: INTERFEROMETRIC MEASURING :  
SYSTEM :  
Examiner: Michael A. LYONS :  
Art Unit: 2877 :  
Confirmation No.: 2336 :  
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Commissioner for Patents  
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Signature: /Elizabeth Tretter/  
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**REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41**

SIR:

This Reply Brief is responsive to the Examiner's Answer mailed June 16, 2010 in connection with the above-identified patent application. For at least the reasons more fully set forth below and the reasons set forth in the "Appeal Brief Pursuant to 37 C.F.R. § 41.37" ("the Appeal Brief") filed on April 2, 2010, the rejections of claims 8 to 13 should be reversed.

Balachandran et al. does not disclose, or even suggest, that a modulation interferometer is combined with a radiation source in a transmitter/receiver unit and that a receiving element is combined with a transmitting element in a transmitter/receiver unit.

The Examiner's Answer at page 3 refers to the light source 38 of Balachandran et al. as disclosing a radiation source for short-coherent radiation. According to Fig. 3 of Balachandran et al., however, the light source 38 is situated outside and separate

from IOC phase modulator 36 which contains interferometer 22, and the transmitting element and the receiving element are separate from each other.

The Examiner's Answer *admits* on page 5 that "Balachandran does not disclose the radiation source, the modulation interferometer, and the receiving element to be combined into a single transmitter/receiver unit." However, the Examiner's Answer contends that it would have been obvious to combine these elements into a single unit allegedly since the integration is a matter of obvious design choice, occurs without any changes to functionality, and obviously would be more compact. For support, the Examiner's Answer cites *In re Larson* "that the use of a one piece construction instead of the structure disclosed [in the prior art] would be merely a matter of obvious engineering choice." *In re Larson*, 340 F.2d 965, 968, 144 U.S.P.Q. 347, 349 (C.C.P.A. 1965).

However, the Court in *In re Larson* also found that omission of an element and its function is obvious if the function of the element is not desired. Specifically, the omission of containers for housing various articles which served to increase the cargo carrying capacity of the prior art mobile fluid carrying unit would have been obvious *if this feature was not desired*. *In re Larson*, 340 F.2d at 968; M.P.E.P § 2144.04. However, ***the omission of an element and retention of its function is an indicia of unobviousness***. *In re Edge*, 359 F.2d 896, 149 U.S.P.Q. 556 (C.C.P.A. 1966) (Claims at issue were directed to a printed sheet having a thin layer of erasable metal bonded directly to the sheet wherein said thin layer obscured the original print until removal by erasure. The prior art disclosed a similar printed sheet which further comprised an intermediate transparent and erasure-proof protecting layer which prevented erasure of the printing when the top layer was erased. The claims were found unobvious over the prior art because ... although the transparent layer of the prior art was eliminated, the function of the transparent layer was retained since appellant's metal layer could be erased without erasing the printed indicia.); M.P.E.P § 2144.04 (*emphasis added*).

By combining the radiation source, the modulation interferometer, and the receiving element into a single transmitter/receiver unit, the claims of the present application *eliminate* the need for a coupler 34, as disclosed in Balachandran et al. That is, in the present application, the switching device 20 connects the measuring probes with the transmitter/receiver unit (without having a separate coupler 34), while in Balachandran et al., the optical switch 30 connects the sensors 12 with the coupler 34, so that the coupler 34 can separately connect with the modulator 36 and the photodetector 28.

However, *the function of* coupler 34 -- connecting the different sensors 12 with the IOC phase modulator 36 or the photodetector 28 -- *has been retained* in the present application by the switching device 20, the switching device allowing the different measuring probes to be individually brought into a bidirectionally transmitting connection *with the transmitter/receiver unit*. Accordingly, as set forth in *In re Edge*, the omission of coupler 34 while retaining the function of coupling the measuring probes with the transmitter/receiver unit is indicia of unobviousness, *not* obviousness.

In view of all of the foregoing and for the reasons more fully set forth in the Appeal Brief, reversal of the rejections set forth in the Final Office Action is respectfully requested.

Respectfully submitted,

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Dated: August 12, 2010

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